World Journal of Advanced Pharmaceutical and Medical Research

Journal homepage: https://zealjournals.com/wjapmr/

ISSN: 2799-0656 (Online)

(Case Report)

Mid basilar saccular aneurysm: A case report

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World Journal of Advanced Pharmaceutical and Medical Research, 2022, 03(02), 001–003

Publication history: Received on 10 September 2022; revised on 18 October 2022; accepted on 20 October 2022

Article DOI: https://doi.org/10.53346/wjapmr.2022.3.2.0041

Abstract

Basilar artery aneurysms are less common than anterior circulation aneurysms, and rupture less frequently, but their critical location necessitates careful evaluation. Unruptured basilar artery aneurysms occurs in 3% of all intracranial aneurysms. We present one case of mid basilar artery aneurysm in our center

Keywords: Mid; Basilar; Artery; Aneurysm

1. Introduction

Aneurysms of the mid-basilar artery (mBA) are rare and these aneurysms have a poorer prognosis. Higa et al. documented a five year incidence of severe morbidity and mortality of 80%. Anatomically, the basilar artery (BA) is located in the depth of the valley surrounded by the bilateral petrous bones. Surgical access to this area is hampered by a dense collection of vital cranial nerves and perforating arteries to the brain stem. Challenges include difficulty with the surgical approach; the frequent occurrence of broad-necked, fusiform or giant aneurysms; and the incorporation of the branches of BA. As a result, the rarity and unique morphological features of mBAAs make it difficult to individually tailor the treatment strategy. However, an endovascular approach to this area is comparatively easy because of the simple access to the BA.

2. Material and methods

This elderly lady 60 yr. old presented to the hospital with headache. On examination GCS was 15/15. No other neurological deficit was seen. Patient underwent CT brain which revealed lesion near the midbasilar artery Patient underwent CT angiogram which confirmed the midbasilar artery saccular aneurysm.

3. Results

The patient was explained about the lesion All possible risks and benefits were explained Patient was referred to the endovascular team and aneurysm was successfully coiled. Access was by right common femoral artery under general anesthesia. 5 F short sheath was used initially later exchanged with 8 F. Head hunter 5 F, Neuron Max 0.88 , DAC navien.70 , Echelon , Ashahi .014 and .014 inch , scepter XC 4x11 mm were the catheters used . 8 detachable coils were used. Left vertebral artery was cannulated. 3000 units of heparin was given bolus then as required with ACT monitoring. No gross complications were encountered. Haemostasis was with angiosealdevice . Total 10% diluted 200 ml contrast was used. After intubating the patient right CFA was punctured with 5F, 11 cm sheath was placed in. 5 F head hunter was advanced to the left vertebral artery and angiogram was taken. Subsequently the aneurysm was cannulated with Echelon microcatheter and almodt completely coiled with 8 coils. Ballon was transiently inflated and then deflated during last 3 coils plavement . Controller angiogram after coiling and removal of Echelon microcatheter showed

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complete occlusion of aneurysm. CFA site was closed with 6F angioseal with good haemostasis .Patient was extubated and shifted bavk to ICU. Post procedure period was uneventful and patient was discharged home without any deficit with advice to follow up in OPD

Figure 1 CT scan revealing suspicious aneurysm in posterior fossa

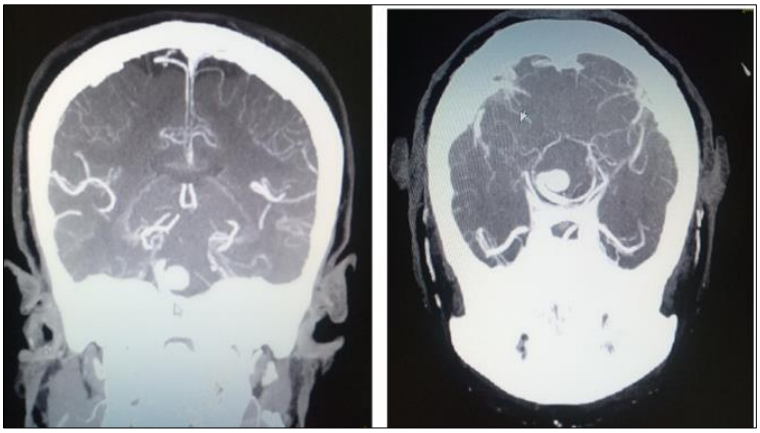

Figure 2 CTA revealing mid basilar artery aneurysm

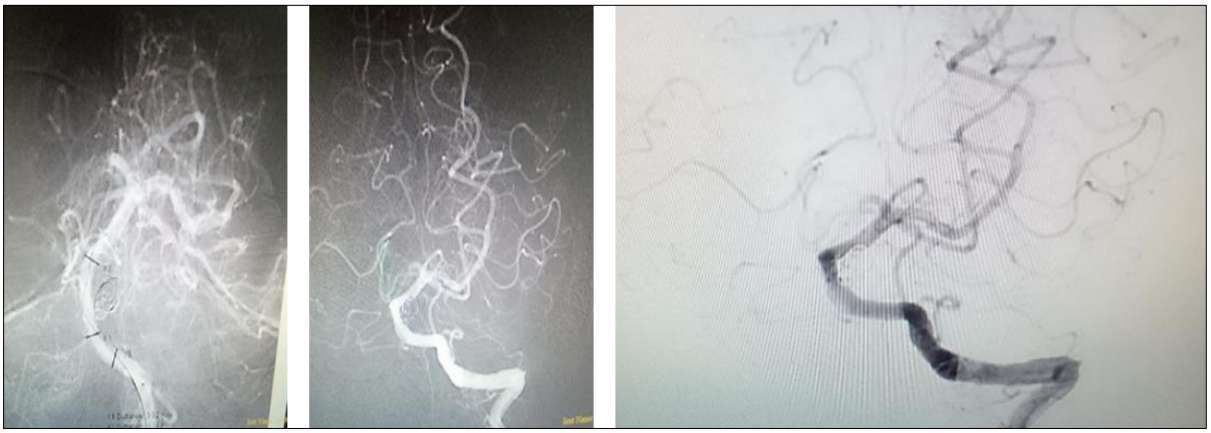

Figure 3 Endovascular coiling of the aneurysm

4. Discussion

J Zhang etal in 2010 opined favorable overall long-term outcome can be achieved in 78.6% patients with mBAAs. Endovascular management of mBAAs is an effective treatment in the long-term. (1) Henkes H in 2006opined dissecting aneurysms of the basilar artery trunk frequently affect young adults. Fusiform shape and narrowing of the proximal parent artery are typical features. Changes in aneurysm size and geometry may be observed more rapidly than in atherosclerotic or dysplastic aneurysms. Dissecting aneurysms carry a significant risk of rupture. Thrombotic or embolic occlusion of small pontine branches may cause ischemic symptoms. Sufficiently large aneurysms compress the adjacent brainstem. The operative treatment of these aneurysms is associated with unacceptable risks. At least one posterior communicating artery with normal calibre together with the ipsilateral P1 segment needs to provide adequate collateral flow to the upper basilar artery to allow endovascular coil occlusion of the segment that is affected by the dissection and/or fusiform aneurysmal dilatation. (2) Higa T in 2015 BTAs natural histories may differ depending on subtype of aneurysm. Saccular aneurysms likely represent an underlying predisposition to aneurysm development because more than half of these cases were associated with multiple intracranial aneurysms. Intervention should be considered in segmental ectasia and chronic dissecting aneurysms, which demonstrate increase in size over time as there is an increased risk of subarachnoid hemorrhage. (3)T Mizutani in 1999 opined that there was a strong relationship between the pathological features of the aneurysms and their clinical courses. This classification may provide a rationale for modes of treatment. (4) Nakatomi H in 2000 studied the clinicopathological study of intracranial fusiform and dolichoectatic aneurysms: insight on the mechanism of growth (5).

5. Conclusion

The natural history of mBAAs is dismal. Technical advances and growing experience with endovascular techniques have resulted in an increased percentage of patients undergoing endovascular therapies. Favorable overall long-term outcome can be achieved in 71.4% patients with mBAAs.

Compliance with ethical standards

Acknowledgments

Department of intervention radiology Khoula hospital.

Disclosure of conflict of interest

There is no conflict of interest.

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